

# THE RAMTOP

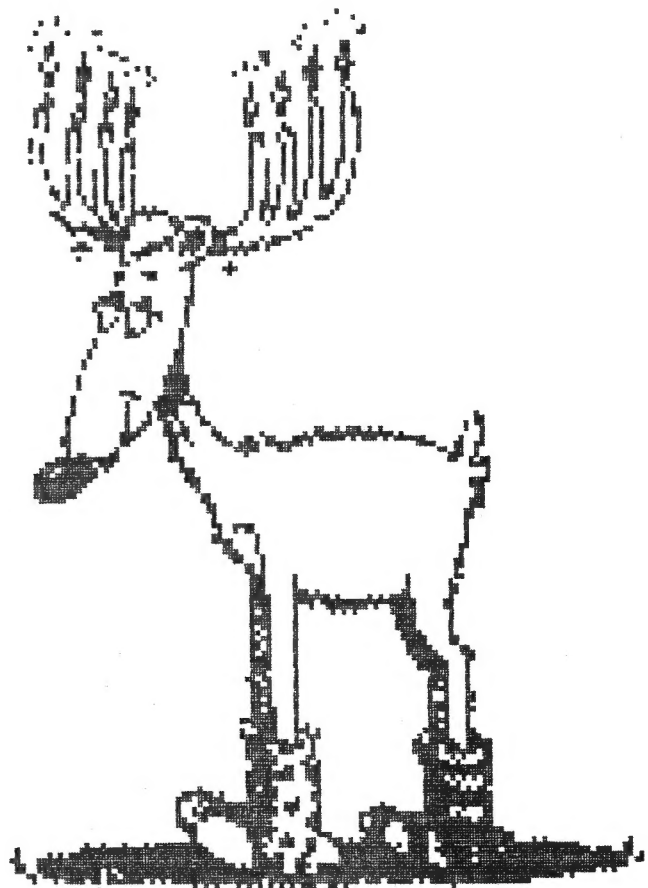
NOV/DEC

1987

PUBLISHED BY THE  
GREATER CLEVELAND SINCLAIR USERS GROUP

Happy

Holidays



PLEASE NOTE!!!!!!  
BE SURE TO ATTEND THE DEC.  
EAST SIDE CHRISTMAS MEETING!  
WE WILL HAVE THE AUCTION AGAIN!!!  
MANY BARGAINS! Please bring a food  
item or pop ECT. SEE YOU THERE!!!!!!

FRIDAY DEC. 4

WEST SIDE GROUP MEETS AT LAKEWOOD PUBLIC LIBRARY  
15425 DETROIT AVE. LAKEWOOD OHIO 7:00 P.M.  
EVERY THIRD FRIDAY EACH MONTH  
CONTACT: DICK SIEG (216) 433-4387

EAST SIDE GROUP MEETS AT THE EUCLID SQUARE MALL  
IN THE EUCLIDIAN ROOM 7:30 P.M.  
EVERY FIRST FRIDAY EACH MONTH  
CONTACT: MAX SCHOENFELD (216) 371-1096

A short note to our friends from other newsletters and magazines. You are welcome to use any of our material, news, adds, or programs if  
YOU: (1) Tell where it came from (RAMTOP Cleveland, Ohio) and (2) The author's name that wrote the article. We would appreciate it if  
you would send us a copy of the newsletter that it appeared in! Unless otherwise notified we will do the same.  
THANK YOU FOR YOUR INTEREST IN OUR NEWSLETTER !

THE TIMELINES BBS  
SYSOP: Bob Parish PHONE: 216-671-6922 : 10 PM to 6 AM EST : 8/1/N : 300/1200 Baud

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AMSTRAD-SINCLAIR-TIMEX RESOURCES  
\*\*\*\*\*  
news/rumors  
hardware software literature  
-----  
Nov-Dec 1987 by Andy Kosiorek  
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#### COMPUTER FESTS....

##### NORTHCOAST:

The general consensus is that the October North Coast - Euclid Square Computer Show was a worth while event. This has come from a number of non-club members. So its likely that it will be repeated next autumn. This show is open to User Groups of all types of computers.

##### WESTCOAST:

The proposed San Fransisco T/S Computerfest for the summer of 1988 has been canceled.

##### SUNSTATE WINTERFEST:

It looks like the Florida "Sun state T/S Winterfest '88" is in a GO mode. It will be held in Orlando Fla. on March 4-6, 1988. The Orlando Marriot Hotel will be the site. I believe it is located in what is know as the "International Drive" strip of hotels & restaurants on the outskirts of Orlando. The location is about a half hour, depending on traffic, from the Disney complex. If you want to tour the area, you will need a car. The hotel group "fest" rate is \$90 per night. Rates at the economy motels start at about \$45.00. Advance reservations are a must. Remember; this is "in season" down there. By midwest standards it is even expensive out of season. The last bulliten I read said they had nine vendors signed up. Tables are \$50.00.

##### Registration Fees:

advance- \$5 single, \$9 family.  
at door- \$8 single, \$12 family.  
To pre-register mail your name, address, phone no. and check for proper fee to: Sunstate T/S Winterfest, 249 Harden Ave., Orange City, Florida 32763  
Make checks payable to "Northeast Florida T/S Users Group."

##### MIDWEST T/S FEST:

In October some informal discussions were held on the feasibility of holding a midwest T/S Fest in Cleveland. It was agreed to postpone a decision on the matter until January. If a Cleveland midwest T/S fest is held, it will be in the latter part of 1988 or in 1989.

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A-S-T RESOURCES, continued  
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news/rumors  
hardware software literature  
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Nov-Dec 1987 by Andy Kosiorek  
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#### COMMUNICATIONS....

##### CLEVELAND FREENET COMMUNITY COMPUTER BBS SYSTEM

I recently attended a meeting of the Freenet SYSOps. About 25 were in attendance. On of the highlights was the round-robin were each sysop told what he/she was doing, and future plans for their area of the system. The enthusiasm and dedication of the members was outstanding. This is not surprising, since Online Access magazine described Ohio as the hottest place for computing between Boston and San Francisco.

It is evident to most callers that the system is overloaded and has technical problems. To resolve the problems, Tom Grundner, Freenet Director presented a five point program and announced a Fall Fund campaign to raise funds to accomplish the goals.

##### Here are the goals:

1. Rewrite the system operating software, to double the size, add many new features and double the number of concurrent online users. - \$32,000.
2. Replace the current problem modems, and add 15 more. cost - 11,500.
3. Increase the number of phone lines from 15 to 30. \$6000
4. Obtain a new and more powerful computer to handle the increased loads. \$42,000.
5. Add clerical staff and publications, such as a Users Guide. \$30,000.

The above goals are almost equal to the present annual operating budget. All registered users will receive a letter describing this ambitious project and requesting a donation. Please give it serious consideration.

##### THE CLEVELAND FREENET BBS SYSTEM

216-368-3888  
300/1200 BAUD - 24 HOURS

The find the Timex/Sinclair SIG, goto the "Public Square" section and select the "Computer Corner" and then the T/S SIG.

\*\*HAPPY HOLIDAYS TO EVERYONE!\*\*\*

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## The PC8300 Computer

by Ron Hopkins-Lutz LISW

### PC8300 NEWS:

\* The PC8300 computer was mentioned in the September/October issue of Time Designs Magazine, nicknamed the "Green Hornet."

\* If you attended the North Coast Computer Fair know that it was a great success. Several Timex/Sinclair owners unaware of our group came by. I was there with my PC8300 and was delighted to meet FOUR other PC8300 owners, one of whom has joined our group. Because it appears that there is some interest in the machine nationwide outside our group I am going to keep writing these articles as long as I can. So while I am going to discuss extended memory and the color pack this month, it will not be the last article.

\* LoLir in their ads in Computer Shopper is now selling the PC8300.

\* Found in an old copy of SYNC, a picture of the PC8300 at the Winter 1983 Consumer Electronics Show hooked up to a ZX Printer, being sold by Unisonic as the Futura 8300!

\* Some exciting news about the PC8300 appears in the September/October issue of Time Designs Magazine. An interpreter EPROM is available from a Canadian company for the PC8300 that is claimed to permit the loading and running of 99% of ZX81 software. The designer is Fred Nachbaur, who produces some very high quality software for the ZX81. He says that the EPROM cannot run some of the very recent high resolution software. If the EPROM performs as claimed then most of the software problems discussed in my last article would largely disappear.

The EPROM is only \$14.95 in US funds, including shipping. I am planning to get one myself. It is available from Silicon Mountain Computers, C-12, Mountain Station Group Box, Nelson, British Columbia, V1L 5P1, Canada. The phone number is (604) 352-1668.

\* I have sent Dean a PC8300 tape for the library with four programs. QUIZ is a reworked version of TIMEWORKS' QUIZ KIT, including a quiz on the PC8300 for you to take. CIPHER is a simple cipher program. CANNON is my infamous SPACE CANNON program. TREK is a conversion of ZX STAR TREK, an old but fun game.

\* The newsletter has received several communications about these articles. I'm glad to hear that people are reading them. One question came in about the use of the Timex/Sinclair 1016 RAM pack. The person claimed that the RAM pack did not run properly, and if I had actually looked inside the machine as I claimed, I would know that the pin-outs are not the same on the expansion interface.

I have looked inside the machine. More importantly I have a copy of the original Chinese language manual which clearly shows the pin-outs as being the same. (This is apparently no longer shipped with the computers.) I have run two T/S 1016 RAM packs and a ZX81 16k RAM pack with no difficulty. But I may know why someone else's machine might not. There have been at least two

versions of the ROM in this machine. The earliest version appears to not be as compatible as the more recent version. At least a few of these seem to have been shipped. It is one thing to say that something did not work for you as it did for me, but it is another to say I never looked into the machine.

I certainly did look in the machine. It was full of little black rectangular and tubular things. Actually, it contains only five chips in my PC8300 so it is a fairly simple design. The main ROM and the other ICs are socketed which will be nice if that new EPROM replaces the current ROM. While I am not a hardware expert, I did note that the board seems to have been designed for more on-board RAM. There are at least five positions where I think extra RAM could have been installed.

#### EXTENDED MEMORY:

\* The PC8300 16k RAM pack appears to work exactly like the Timex RAM pack.

\* The PC8300 32k RAM pack is interesting. Unlike the T/S1500 with a 16k RAM pack or the ZX81 with a 32k, 48k, or 64k RAM pack the PC8300 requires no POKes to access the extra 16k of RAM memory. This program ran perfectly without any POKes.

```
10 DIM A(6000)
20 FOR N=1 TO 6000
30 A(N)=N
40 NEXT N
50 FOR N=1 TO 6000 STEP 500
60 PRINT A(N),
70 NEXT N
```

I have not yet had the time, or inclination, to enter a program that requires more than 16k for the program lines. I do not know whether the top 16k is available for program listings or not. If anybody wants to undertake this project, let me know what you find.

\* The MEMOTECH 64k RAM pack drives the PC8300 into the equivalent of hiccups.

#### COLOR PACK:

\* The color pack does not work. It was designed for the British PAL system. If you phone American Design Components they will authorize a return, or so I was told. I plan to keep mine however and see whether it can be made to work by someone more knowledgeable than myself.

#### IN THE WORKS:

- A 32k dungeon maze game to be done in parts.
- A review of the Canadian interpreter EPROM.
- A miniwordprocessor for the 2040 printer.

You can write me at 1705 Lee Road, Cleveland Heights, Ohio 44118 or in care of the RAMTOP.

Ron Hopkins-Lutz LISW

HOWDY to ALL! Can you believe that it's December already! The time just seems to fly! Before the year ends, I have a few unpleasant duties to get over with first. PLEASE take the time to look at the DUE DATE on your ADDRESS LABEL! Starting with the JANUARY/FEBRUARY issue, if you are more than ONE month behind in dues I will be forced to drop you from the mailing list! PLEASE don't let this happen! If there is a problem, GIVE ME A CALL! (216-661-4105) I wish that we could mail the RAMTOP for free but you all know that this is not possible. It costs us approximately \$1.21 per newsletter. This is for printing and stamps only. This does NOT include costs for supplies to create the original. You must also remember that quite a few RAMTOPS are mailed at no cost to other user groups (newsletter exchange) and we mail samples to those that request them to advertise our group in hopes of increasing our numbers! We also print a few extras for further use. There are other miscellaneous expenses involved too. IF ANY OF YOU CAN PRINT (COPY) THE RAMTOP AT A LOW COST, PLEASE GIVE ME A CALL!!!

Now for the next big problem. ARTICLES!!! The size and quality of this or any publication is due 95% to the articles that go into it! Our group has a LOT of GOOD talent! Let's put it to GOOD use! I will accept it in any way shape or form that you send it! We also need hardware articles. Many of you have come up with some GREAT projects! SHARE IT! If we get more articles we can go back to a monthly format.

you all know that the Sinclair and Timex computers have their limitations, but so do the others. There is a good article in this RAMTOP about this. We have one of the best and easiest to use BASICs of ANY computer. The math accuracy is very good. The use of graphics is easy. Adding a disk system dramatically reduces load and save times! I invested in the OLIGER disk system due to its ease of usage and excellent support in case of problems. The DOS is easy to use and very versatile. It also has a printer driver built in so it is not necessary to load one. No memory is used so ALL programs will work with this system! There are 3 other good disk systems for the 2068. These are: Aerco, Larkin, and the Zebra disk systems. I have been told that the Zebra is or will be soon discontinued. The other 3 (Oliger, Larkin, Aerco) are still current and in production. They all have their good and not so good points. All are well worth the money and will give you a new lease on computing with the 2068! They all are Spectrum compatible (I believe the Aerco needs another disk loaded to use Spectrum). They all have a push button to save the whole memory. I hear the Aerco is a bit harder to use, but has one or more extra banks of memory. The Larkin is now much easier to use. I have the Oliger and have had no trouble with it and it is very easy to use. Also, most of the members that have disk systems in our group have the Oliger. If you are interested in these systems, call or write to the companies involved. You won't be sorry! If you are like me, you have a LOT of software on cassette and it is more than likely the major cost of your system. Transferring to disk is very easy. I can begin typing into TASWORD within only 7 seconds after switching on the 2068! (Try that PCers!) Let's keep these versatile machines ALIVE in '88!

JGD

I hope that you are all aware that we have a Cleveland LOCAL BBS! Our treasurer Robert Parish, has been running TIMELINES BBS out of him home for quite some time now. He tells me that very few of our members call. We all need to call at least once in a while! It is fairly easy to use. If you find it hard to use, just ask for help. I called and it's OK! If Bob sees that we use the system, he will be improving it and adding to it. If not, he will become discouraged and drop it. You can leave messages, up and down load programs and files, and lots more. Call 216-671-6922 (8-N-1) 10PM-6AM EST, 30/1200 BAUD.

*The following program was sent in by GABE SCHAFFER. It's for the 2068.*

Please note that the graphic characters are shown in line 7000. It might make it easier to see the graphics by typing in lines 5000 to 5090 and running first. HAVE FUN!

```

10 LET hi=0: GO SUB 5000
20 PAPER 7: BORDER 7: INK 0: B
ORDER 0: CLS: PRINT "PRESS A KE
Y: ""I"" FOR INSTRUCTIONS"
30 IF INKEY$<>"" THEN GO TO 30
40 IF INKEY$="" THEN GO TO 40
50 IF INKEY$="I" OR INKEY$="i"
THEN GO SUB 6000: GO TO 20
60 RANDOMIZE: LET sc=0: LET l
=1: LET l$=""
70 LET a=19: LET b=15: LET aa=
a: LET bb=b
80 LET d=-1+(INT (RND*10)*2+2
AND l>2): GO SUB 4000
90 LET f1=9: LET f2=z: LET t=-
1: LET b0=1: LET b1=t: LET b2=t
110 PRINT AT f1,f2: INK 6: ""
AT f1+1,f2: "" AT a,b: INK 7: ""
$ AT a+1,b: ""
120 IF aa<>a AND bb<>b THEN LET
sc=sc+2: PRINT AT aa,bb: "" AT
aa+1,bb: "" LET m$(aa,bb TO b
b+1)="" LET m$(aa+1,bb TO bb+
1)="" IF m$(a,b)="" AND (f1<
a OR f2<>b) THEN GO TO 1000
130 LET aa=a: LET bb=b
140 IF a=f1 AND b=f2 THEN BEEP
.02,20: BEEP .02,25: BEEP .02,30
: GO SUB 4500: LET f1=9: LET f2=
z: LET sc=sc+20
150 IF a=b1 AND b=b2 THEN LET b
0=b0+1: BEEP .03,30: BEEP .03,25
: BEEP .03,20: LET sc=sc+15: LET
t=-1: LET b1=t: LET b2=t
160 IF m$(a,b)="" OR m$(a,b)=""
OR t=0 THEN GO TO 1000

```

```

170 IF b0>6 THEN GO TO 3000
180 PRINT AT 0,6; INK 7; BRIGHT
0;sc
190 IF t>0 THEN LET t=t-1: PRIN
T AT b1,b2; FLASH 1; INK 6; PAPE
R 2; "*/"; AT b1+1,b2; "*/"; AT b1+(
INT (t/2)=t/2),b2;t: BEEP .01,t+
10: GO TO 500
200 LET y=m(b0): LET z=INT (RND
.15)*2+1: IF m$(y,z)=" " THEN LE
T t=50: LET b1=y: LET b2=z: LET
m$(y,z TO z+1)=" ": LET m$(y+1,
z TO z+1)=" "
500 LET x#=INKEY$: IF x#<"5" TH
EN GO TO 540
510 FOR x=0 TO 1: PRINT AT a+x,
b; " ": LET m$(a+x,b TO b+1)=" "
: NEXT x: LET a=a+(2 AND x#="5"
)-(2 AND x#="7"): LET b=b+(2 AND
x#="8")-(2 AND x#="5")
520 LET a=a+(20 AND a<1)-(20 AN
d a>19): LET b=b+(30 AND b<1)-(3
0 AND b>29)
530 GO TO 100
540 IF x#<>"1" AND x#<>"2" OR d
=a THEN FOR x=1 TO 15: NEXT x: G
O TO 100
600 IF x#="2" THEN GO TO 700
610 FOR x=0 TO 1: LET m$(a+x)=m
$(a+x,3 TO )+m$(a+x): NEXT x
620 IF a=f1 THEN LET f2=f2-2
630 IF a=b1 THEN LET b2=b2-2
640 GO TO 800
700 FOR x=0 TO 1: LET m$(a+x)=m
$(a+x,29 TO )+m$(a+x): NEXT x
710 IF a=f1 THEN LET f2=f2+2
720 IF a=b1 THEN LET b2=b2+2
800 FOR x=0 TO 1: PRINT AT a+x,
1;m$(a+x): NEXT x
810 LET f2=f2+(30 AND f2=-1)-(3
0 AND f2=31)
820 LET b2=b2+(30 AND b2=-1)-(3
0 AND b2=31)
900 GO TO 100
1010 FOR x=7 TO 0 STEP -.2: PRIN
T AT a,b; INK x;" "; AT a+1,b;" "
: BEEP .008,x-10: NEXT x
1020 FOR x=50 TO 10 STEP -1: BEE
P .01,x: BEEP .01,x+3: NEXT x
1030 LET (l=l(2 TO )): IF LEN l#
<2 THEN GO TO 2000
1040 IF m$(a,b)=" " OR m$(a,b)="
" THEN GO SUB 4500: LET a=y: LE
T b=z: LET aa=a: LET bb=b: IF m$
(a,b)=" " THEN GO TO 1040
1050 IF t=0 THEN LET b0=b0+1: LE
T t=-1: LET b1=t: LET b2=t
1060 GO SUB 4050: GO TO 170
2010 PRINT AT 9,0; PAPER 1; FLAS
H 1;"<<<<<< G A M E O U E R >
>>>>>><<<<<<< AGAIN (Y/N)? >>>>
>>>>"
2020 IF sc>hi THEN LET hi=sc: GO
SUB 4070
2030 FOR x=1 TO 50: BEEP .004,x
2040 IF INKEY$="y" THEN GO TO 20
2050 IF INKEY$="n" THEN STOP
2060 NEXT x: FOR x=50 TO 1 STEP
-1: BEEP .004,x
2070 IF INKEY$="y" THEN GO TO 20
2080 IF INKEY$="n" THEN STOP
2090 NEXT x: GO TO 2030
3010 LET l=l+(l<9): LET x#="SUPE
R BONUS == SUPER BONUS == "

```

```

3020 FOR x=1 TO 50: PRINT AT 21,
0; INK 6; FLASH 1;x#: BEEP .01,x
: LET x#=x$(2 TO )+x#
3030 LET x#=x$( TO 32): NEXT x
3040 LET sc=sc+55: GO TO 70
4010 PAPER 0: INK 5: BORDER 0: B
RIGHT 1: CLS
4020 DIM m$(20,30): DIM m(6)
4030 FOR x=1 TO 20 STEP 2: LET m
$(x)=" "; LET m$(x+1)=" ";
NEXT x
4040 FOR x=1 TO 6: GO SUB 4500:
LET m$(y,z TO z+1)=" ": LET m$(
y+1,z TO z+1)=" "
4050 LET m(x)=y: NEXT x
4060 FOR x=1 TO 20: PRINT AT x,1
: INK 5-(2 AND (x=d OR x=d+1));m
$(x): NEXT x
4070 PRINT AT 0,0; BRIGHT 0; INK
7;"SCORE:";sc;TAB 11;"HIGH:";hi
;TAB 21;l$;TAB 25;"LEVEL:";l
4510 LET y=INT (RND*10)*2+1
4520 LET z=INT (RND*15)*2+1
4530 IF m$(y,z)=" " OR y=19 AND
z=15 THEN GO TO 4510
4540 RETURN
5010 FOR x=0 TO 127: READ y: POK
E USR "a"+x,y: NEXT x: RETURN
5020 DATA 248,244,242,242,242,24
2,242,242,255,255,255,255,64,32
5030 DATA 31,0,242,242,242,242,1
0,6,254,0,0,0,15,63,127,127,127
5040 DATA 127,60,60,24,248,216,2
16,216,216,127,112,64,0,0,0,0
5050 DATA 216,248,24,24,24,24,24
,0,96,231,255,63,67,57,63,30
5060 DATA 12,206,254,248,56,56,2
48,240,30,15,28,60,247,227,96,0
5070 DATA 240,224,112,120,222,14
2,12,0,7,7,63,15,3,61,57,63,192
5080 DATA 192,248,224,240,120,56
,248,123,92,79,39,12,68,112,0
5090 DATA 188,116,228,200,96,52,
28,0,60,255,90,126,165,24,36,66
6000 CLS: PRINT "BLOCK BUSTER"
"-----"
keys to steer the man around the
screen. If you goof one edge of
the screen, you will appear on
the opposite side"
6010 PRINT "You must defuse the
time bombs before they detonat
e, but you may only do this on
ce they are activated."
6020 PRINT "You may not move on
to an empty space, or onto an u
nactivated bomb."
6030 PRINT "The ROW of blocks y
ou are on can be shifted left or
right using keys ""1"" and ""2""
". This may help you reach a bom
b, etc."
6040 PRINT "Bonus points are gi
ven for reaching a flag."
6050 PRINT " : A safe block"
" : A flag"
An unactivated bomb"
: Your man"
: "Good luck..."
: "PRESS ANY KEY"
6060 IF INKEY$="" THEN GO TO 606
0
6070 RETURN
7000 REM A B C D E F G H I J K L
M N O

```

# HOW SLOW IS IT?

by Mel Richardson

It has been written many times that Sinclair floating point arithmetic is awfully slow. But it's accurate! is sometimes exclaimed in defence. Well, just how slow and accurate is it? In the March 87 issue of SKY & TELESCOPE, T.S. Kelso of Austen TX presents a Basic version of a program outlined in BYTE, Vol 10, No. 11, 1985 called the "SAVAGE BENCHMARK". A Sinclair version is presented below that should be usable on all our machines and provide some interesting comparisons.

The principle of the program is 2499 iterations of three pairs of complementary functions (tan/arctan, exponent/log, square root/square). The number "1" is sent through this grinder and incremented by 1 each time. The correct result of course is 2500 and the computed result will indicate accuracy while the time taken to compute can be noted.

Results are given for some computers described as follows: A Z80A system using CPM 2.2 and single precision produced 2304.86 in 4M 20S. Compiled and with double precision gave 2499.999999869949 in 38M 22S and the same system with Turbo Pascal produced 2500.0046341 in 6M 41S. A system with an 8086 processor running at 8mhz using MS-DOS 2.11 produced 2500.004634 in 1M 59S, and with an 8087 numeric processor added gave 2500.00000000118 in 6 seconds. An IBM PC-AT running at 8mhz answered 2500.004634 in 54 seconds. My T/S 1000 in FAST mode with a Z80B produced a respectable 2499.6758 in a modest 15m 29s. There you have it. Not too bad for an unenhanced basic.

For some perspective, it is reported in the same journal that the mighty CRAY X-MP/24 struggled for .7463S to answer 2499.999999999999 etc. Terrific.

```
1 REM SAVAGE BENCHMARK
5 CLEAR
10 LET A=1
20 FOR I=1 TO 2499
30 LET A=TAN (ATN (EXP (LN (SQ
R (A*A)))))+1
40 NEXT I
50 PRINT A
```

## PIE CHART PROGRAM

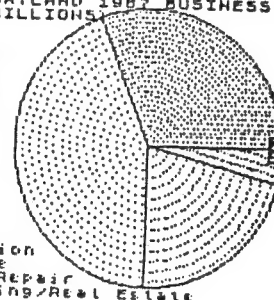
The Editor

This program will make up to and including 18 slices. It also displays a slice number, the value you input and the % of the whole.

```
1 RUN 400: REM for pie chart
with up to 18 pieces of pie
240 FOR r=1 TO ra STEP RND*6+.7
: FOR p=as TO ae STEP d*(40/r):
PLOT r*COS p+xc,r*SIN p+yc: NEXT
p: NEXT r: RETURN
399 REM add a '' for N$ for ea
ch name line over 1. Normal is 2
for 1 line.
400 INPUT 'PIE CHART NAME? ':N$
: CLS : PRINT N$''H val rX':
INPUT 'how many divisions? ':di
v
401 LET total=0: DIM d(div)
402 FOR a=1 TO div: INPUT 'ente
r value for division H':(a):' ':
d(a): LET total=total+d(a): PRIN
T a;TAB 3;d(a): NEXT a
1100 LET xc=168: LET yc=88: LET
ra=87: CIRCLE xc,yc,ra
1200 LET ang=0: FOR s=1 TO div
1400 PRINT AT s+2,8;INT (d(s)/to
tal*100+.5)
2050 LET d=(RND*6+.7)*.01745
2200 LET as=ang*.01745
2210 PLOT xc,yc: DRAW ra*COS as,
ra*SIN as
222 LET ang=ang+d(s)/total*360
2300 LET ae=ang*.01745
2400 GO SUB 240
2440 NEXT s
3000 PRINT TAB 2;'-----': PRINT
TAB 2;total;AT 10,30; INVERSE 1;
1;AT 11,30;div
3100 REM add necessary LPRINTs t
o describe item Hs within space.
3333 STOP
9999 SAVE 'piechart'
```

PORT OF PORTLAND 1987 BUSINESS  
(MILLIONS)

| H | val | %  |
|---|-----|----|
| 1 | 31  | 31 |
| 2 | 44  | 44 |
| 3 | 21  | 21 |
| 4 | 4   | 4  |
|   | 100 |    |



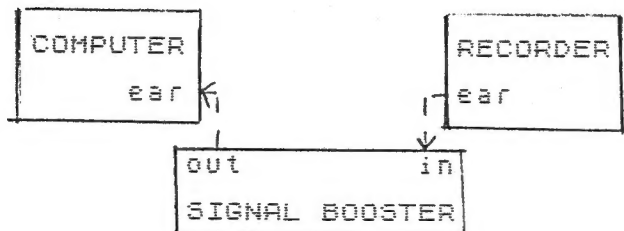
From ZX APPEAL

# CASSETT SIGNAL BOOSTER

by HAL SOHN  
reprinted from SINCUS

The signal booster consists of one miniature audio transformer. The transformer is used as an interface between the computer and the cassette recorder.

## EXAMPLE:



The signal booster has the following advantages:

1) Isolates the computer from the cassette recorder which eliminates noise.

2) Increases the audio signal amplitude.

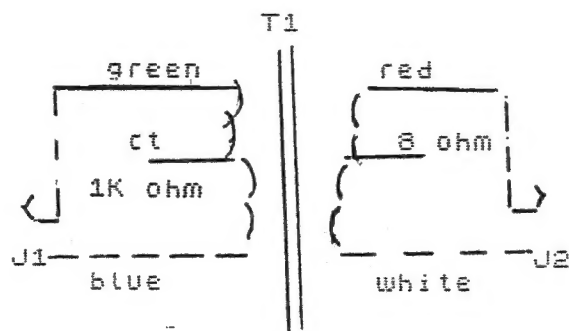
3) Cassette recorder volume setting can be adjusted to a lower level, thus improving the signal/noise ratio. This lower setting decreases the inherent noise caused by high level volume setting on most recorders.

4) Increased signal amplitude, allows for misalignment of the record/playback head, which causes low signal amplitude.

5) No power required.

6) LOW COST

## SCHEMATIC:



## CONSTRUCTION:

1) Drill two 1/4 in. holes in a plastic pill bottle, one thru the cap and one thru the bottle bottom.

2) Solder transformer leads to jacks (J1) & (J2) as per schematic, then insert into plastic bottle.

NOTE: Do not use a metal container, the metal prevents the proper isolation and grounding between the computer and the recorder.

## PARTS LIST:

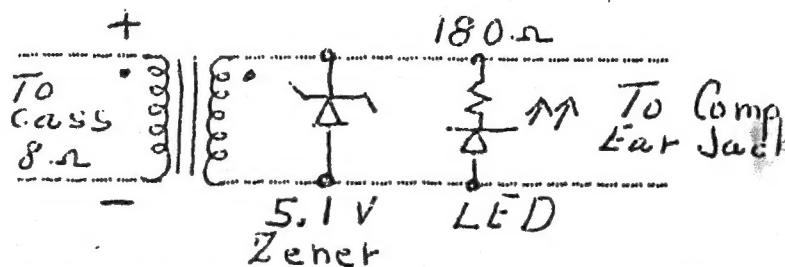
T1 > 1K CT, to 8 ohms  
Radio Shack (273-1380)

J1 & J2 1/8 in (3.5 mm) plug  
Radio Shack (274-297)

Plastic pill bottle to fit transformer

For best results use a lower volume setting when using the SIGNAL BOOSTER.

## MODIFICATION TO SIGNAL BOOSTER BY E.L. RADTKE



THE CIRCUIT SHOWN IN THE LEFT COLUMN MAY OVERLOAD THE COMPUTERS INPUT. SHOWN ABOVE IS A SIMPLE MODIFICATION TO PREVENT THIS.

# TS/1000 VERIFY

by DAVID NOWOTNIK

With only 8K of ROM in the TS/1000 it's a little wonder that it hasn't a verify command. This little program will take care of that omission.

This routine is based on the LOAD routine in ROM. The change is when a byte is read off the tape. Instead of putting the byte into the appropriate place in RAM, it is compared with the current byte at that address. If their is not a match, then the routine exits with an error message (R/O).

If all bytes match and the verification was successful, with no mis-match, then the O/O message will be returned at the end of the routine.

First enter this machine code loading routine, with 135 spaces or characters in the REM statment.

```
10 REM .....(135 SPACES).....
20 LET X=16514
30 INPUT A$
40 IF A$="S" THEN STOP
50 LET J=16*(CODE A$-28)+CODE
A$(2)-28
60 IF PEEK X=27 THEN POKE X,J
70 LET X=X+1
80 GO TO 30
```

Next RUN the program and enter these HEX digits.

```
CD 23 0F 37 11 00 00 CB 12 CB
0A CD 10 7C 18 FB 0E 01 06 00
3E 7F DB FE D3 FF 1F 30 49 17
17 38 26 10 F1 F1 BA D2 7A 7C
62 68 CD 10 7C CB 7A 79 20 03
BE 20 D6 23 17 30 F1 FD 34 15
21 09 40 50 CD 10 7C 00 CD 6C
7C 18 F6 D5 1E 94 06 1A 1D DB
FE 17 CB 7B 7B 38 F5 10 F5 D1
20 04 FE 56 30 B2 3F CB 11 30
AD 09 7A A7 28 BB CF 0C EB 21
7C 40 37 ED 52 30 06 1A B9 28
02 CF 1A 13 2A 14 40 37 ED 52
EB D0
```

Now the routine is in the long REM statment, and you can delete lines 20 through 80. DO NOT delete line 10. After these lines are deleted, add the next lines, 20 through 70. Then SAVE this before you go further, it is your VERIFY program.

```
20 LET X=16514
30 FOR I=31744 TO 31878
40 POKE I,PEEK X
50 LET X=X+1
60 NEXT I
70 NEW
```

To use the VERIFY routine, it must be loaded into your TS/1000, above RAM-TOP, before any other program. First lower RAM-TOP with these three direct commands....

```
POKE 16388,123 -- ENTER
POKE 16389,255 -- ENTER
NEW -- ENTER
```

Now you may LOAD and RUN your VERIFY routine.

You now can type in your BASIC program. When you are ready to SAVE it, just SAVE it to tape as you would normally SAVE it. To VERIFY, rewind the tape to the start of the program, and type in, in direct command.

RAND USR 31744

And press play on your recorder and ENTER on your computer

If you saved the program with variables, then CLEARED them before verifying, or changed the variables in any way then you may get a verify error (R/O). Otherwise, if all is well, you'll get an O/O message to tell you that your program has been VERIFIED.

THANKS FOR MAKING THIS YEAR OF THE RAMTOP A BIG SUCCESS!

LET'S KEEP IT THAT WAY. PLEASE KEEP SENDING YOUR ARTICLES!!!

6514 BRADLEY AVE, PARMA, OH 44129

JAME G. DUPUY

THIS WAS TAKEN FROM SYNCWARE NEWS,  
IF YOU WANT TO SEE THE WHOLE ARTICLE,  
IT IS IN THE SEP/OCT 87 ISSUE. THIS  
IS A COMPARISON OF THE PC AND TIMEX.

To one who has used a Timex computer, the PC is a very interesting machine because in some respects, it is the exact opposite of a Timex, yet at the same time, it is startlingly similar. Let me explain.

#### The Opposites

My overall impression of Timex computers is that it offers the finest Basic language, the most efficient use of memory and the most sensible operating system of any other computer. However, it fails horribly in a crucial aspect that practically ruins its usefulness. Timex hardware is awful. On the TS1000, overheating and rampack wobbles, the poor quality video, the membrane keyboard, and unreliable, slow cassette loading are enough to try the patience of Job. Hobbyists and experimenters have made great attempts to correct these shortcomings, but in most cases, it involves a great deal of tinkering to get everything working right, and even more tinkering to keep it that way. The TS2068 fixed many problems of the 1000 computer, but the "wavy" video, still slow tape loading, and bad keyboard leave many problems only slightly corrected.

The PC is just the opposite in this respect. It gives you very nice hardware and software that stinks. You get beautiful video: clear, sharp, rock steady, able to be read from opposite sides of a room. You get just a ton of memory. Most clones come with 640K built-in. The power supply gives no crashing problems, and disk drives are fast, reliable, and store gobs of data. Anyone who has fussed and fumed over a Timex will think they've died and gone to heaven when they start working with the PC hardware.

Looking at the operating system and its associated software, a Timex enthusiast would see a real mess however. It appears to be a hodge-podge of routines which were written by a hundred different people. Everything was pieced and patched together, but nobody ever really cleaned it up. As a result, it is very wasteful of memory space, slow considering the speed of the microprocessor, and quite cumbersome. The Basic programming language consumes over 60K. Syntax checking is completely lacking, programs can be a maximum of 64K in length (even if you have 10 times more memory in the computer!), and a faulty program line can crash the PC like a bad USB call does on the Timex.

I find it to be particularly ironic that we ZX/TS fans have put up with continual harassment from PC users who told us we had nothing more than a toy when in actuality, it was they who were forced to work with such inferior software. They didn't know what they were missing, and we didn't know how good we had it!

#### The Similarities

After all my complaining, you might wonder why we even suggest bothering with the PC. Actually there are a lot of reasons. They revolve around the similarities I see between the PC and the Timex.

When you strip away the bad operating system you are left with a wonderful machine. It is extremely simple the way it works. There is nothing technologically advanced about it. There are no mysterious chips, esoteric functions or fancy hardware. At its gut level, the PC is nothing more than a very souped up ZX81. A machine code programmer can take complete control of the machine and make it do whatever you want. This is in contrast to the more technologically advanced computers like the TS2068, the QL, the Atari, Amiga, and Macintosh where sophisticated hardware can often make a programmer's life miserable.

Also of interest to the machine code programmer, is the 8088 microprocessor in the PC. This chip comes from the same roots as the Z80 which means that the methods and philosophies used with the Z80 can also be applied to the 8088. Many MC instructions are identical or are only semantically different. For example, the Z80 term, "LD A,00" becomes "MOV AL,00" in the PC. It is very easy to make the transition.

For the Non-machine code programmer, who's probably thinking "big deal" at this point, these similarities have important consequences for you too. Because the PC is so easy to program in machine code, many of the shortcomings found in the operating system have been circumvented by applications software or additional system software. This stuff is widely available in the public domain libraries I mentioned in the last section on the PC. Probably half of all software in these libraries could be categorized as "Utility" software: Toolkits, patches, and enhancements which fill the holes left by the operating system.

Here we have a few digitized screens from the SUPERMAN special on WWOR out of NEW YORK.



If you would like to subscribe to the RAMTOP please fill out this form and send it to the listed address along with a check for: \$15/Year or \$7.50/ 6 mo. to become a member of our Group (Attend meetings, use library tapes Ect.) Please make checks payable to the RAMTOP! (The phone # is only for our records!) This INCLUDES useage of our TIMELINES BBS! (216-671-6922, 8-N-1) Times of useage are 10PM to 6AM (EST) 7 days a week.

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\*Type of computer(s) and peripheral(s) you own: \_\_\_\_\_ \*  
 \*

\* *THANK YOU for your interest!* Please send to: \*  
 \*

\*Robert Parish, 12706 Leeila Ave., Cleveland, OH 44135 \*  
 \*\*\*\*\*

#### MINI-SOFTWARE REVIEW

#### SINCLAIR NOTES

EXTENDED PAINT BY DAVE FRANSON.....

THIS IS A RATHER SLICK PROGRAM WHICH USES THE 2068'S EXTENDED COLOR MODE. IT INCREASES THE VERTICAL COLOR RESOLUTION OF THE 2068. IT PROVIDES A FIX FOR THAT OLD SINCLAIR PROBLEM OF ATTRIBUTE CLASH. THIS PROGRAM IS NOT A ART PROGRAM IN THAT THE BLACK AND WHITE IMAGE HAS TO BE PROVIDED FROM ONE OF THE MANY DRAWING PROGRAMS OR PERHAPS FROM A DIGITIZED IMAGE. EXTENDED PAINT DEALS PRIMARILY WITH THE COLOR OF THE PICTURE, BY OPENING UP A SECOND FILE OF ANOTHER 7K FOR THE ATTRIBUTES INCREASING COLOR RESOLUTION FROM 24 X 32 TO 192 X 32.

EXTENDED PAINT WILL PROVIDE GREYTONE IMAGES WITH A 2040 PRINTER OR AN EPSON COMPATIBLE PRINTER. IT WILL PRINT A FULL COLOR IMAGE ON THE CANON PJ-1080A OR ITS COMPATIBLES. IT SUPPORTS AERCO, OLIGER AND FOOTPRINT PRINTER INTERFACES. THE PROGRAM PROVIDES YOU WITH THE CODE WHICH ALLOWS YOU TO USE THE EXTENDED COLOR MODE IN YOUR OWN PROGRAMS. THE DOCUMENTATION FOR EXTENDED PAINT IS WELL WRITTEN AND THOROUGH. THE PROGRAM IS EASILY BACKED UP AND ADAPTED TO DISK DRIVE.

ON THE DOWN SIDE, EXTENDED PAINT IS NOT THE SORT OF PROGRAM THAT IS READILY USED WITHOUT READING THE DIRECTIONS. I FOUND SOME OF THE COMMANDS AWKWARD, ESPECIALLY THOSE INVOLVING CURSOR MOVEMENT. HOWEVER IF I HAD USED THE PROGRAM A BIT MORE I MAY HAVE GOTTEN USED TO THE WAY EXTENDED PAINT WAS SET UP. SINCE IT IS THE ONLY PROGRAM ON THE MARKET WHICH USES THE 2068'S EXTENDED COLOR MODE (ABSENT ON THE SPECTRUM) I BELIEVE THAT IT IS A VALUABLE ADDITION TO THE PROGRAM LIBRARY OF THE 2068 USER WHO IS INTERESTED IN GRAPHICS. IT IS AVAILABLE FOR \$20. FROM DAVE FRANSON, 3534A E. SQUIRE AVE., CUDAHY, WI. 53110

WE HAVE RECIEVED QUITE A BIT OF CORRESPONDENCE LATELY, SOME OF WHICH WILL BE OF INTEREST TO THE GENERAL MEMBERSHIP.

ISR OF AUSTIN, TEXAS OFFERS A DISK DRIVE SERVICE. THEY CHARGE \$10. FOR A DIAGNOSTIC CHECK; \$25. FOR MECHANICAL REPAIRS (ALIGNMENTS, CLEANNING AND MOTOR ADJUSTMENTS); \$40. FOR REPAIRS TO THE BOARD. THE DIAGNOSTIC CHARGE IS INCLUDED IN THE MORE EXPENSIVE REPAIR CHARGES. FOR MORE INFORMATION WRITE ISR, 8104 PARKDALE DRIVE, AUSTIN, TEXAS 78758. TELEPHONE #'S 800-458-6778 OR 512-467-7085.

CLYDE M. CLARK OF 731 MORTON CIRCLE, MARYVILLE, TN 37801 HAS A 1000 WITH A 16 RAM PACK AND ADDON ON KEYBOARD FOR SALE. IF YOU ARE INTERESTED WRITE HIM AT THE ABOVE ADDRESS OR CALL HIM AT 615-984-6594.

MATTHEW ZENKAR, IS OFFERING A HALF MEG, ZERO WAIT STATE, PLUG IN MEMORY FOR THE QL. IN ADDITION TO USING LESS POWER THAN OTHER BOARDS ALLOWING THE QL TO RUN COOLER, IT WILL FIT INSIDE THE QL ALLOWING THE END COVER BE IN PLACE. HE SHOULD BE ABLE TO SHIP STARTING THIS MONTH. COST IS \$130. AND HE TAKES PLASTIC (MCHARGE OR VISA). WRITIE TO MATTHEW PO BOX 12534, ROCHESTER, NY 14612.

FROM THE RUMOR MILL COMES WORD OF A INTERFACE FOR THE 2068 THAT WILL ALLOW IT TO CONNECT TO AN IBM AT AND USE IT AS A SLAVE, CONTROLLING ALL OF ITS PERIPHERALS INCLUDING THE HARD DISK! WE ALL WILL WANT TO SEE THIS ONE!

IF YOU HAVEN'T HEARD YET THE SAN FRANCISCO SHOW FOR NEXT YEAR HAS BEEN CANCELLED. WE ARE CURRENTLY CONSIDERING THE POSSIBILITY OF HAVING A SHOW IN CLEVELAND LATE IN THE YEAR OR THE FOLLOWING YEAR IF THERE IS ENOUGH INTEREST. WHAT WE WOULD LIKE TO KNOW IS WHAT THE FLORIDA PEOPLE ARE DOING? IF ANY ONE OUT THERE CAN CLUE US IN WE WOULD APPRECIATE IT.

TOM SIMON

THE FOLLOWING FORM IS FOR THOSE WHO ARE INTERESTED IN RECEIVING A LIBRARY TAPE. YOU MUST FILL THIS OUT AND RETURN IT IF YOU WANT A TAPE MAILED TO YOU! This form is for those of you that DON'T attend the meetings. There are 2 ways to get a copy of the programs in our library: 1- Send a C-90 with your return address and \$1.00 (P&H) or 2- We will send you a tape that you can keep for \$3.00. (Make checks payable to The RAMTOP)  
 Thank You for your support of our group!

\*\*\*\*\*  
 \* LIBRARY TAPE FORM \*  
 \*  
 \* NAME \_\_\_\_\_ PHONE \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_  
 \* phone # is REQUIRED!  
 \* ADDRESS \_\_\_\_\_  
 \*  
 \* CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
 \*  
 \* TYPE OF COMPUTER YOU OWN: 1000/ZX-81 \_\_\_\_ /1500 \_\_\_\_ /2068 \_\_\_\_  
 \* check all that you have : QL \_\_\_\_ OTHER \_\_\_\_\_  
 \*  
 \* Do you have a DISK system: (type) \_\_\_\_\_  
 \* Please note that we request that the form be filled out as  
 \* completely as possible.  
 \*\*\*\*\*

Mail the form along with your check (\$1.00 or \$3.00) to:  
 Dean Miller (Librarian) + It would be appreciated if you  
 29324 Park St. + send us any noncopyrighted soft-  
 Wickliffe, OH, 44092 + ware!!! (Phone- 216-944-8630)

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From:

THE GREATER CLEVELAND SINCLAIR USER GROUP  
 JAMES G. DUPUY ( EDITOR OF THE RAMTOP )  
 6514 Bradley Ave. (DOWN)  
 Parma, Ohio 44129

TO:

FIRST CLASS MAIL